2 Sheets—Sheet 1.

A. McQUEEN.

BEE-HIVES.

No. 175,482. Patented March 28, 1876.

Fig. 1.

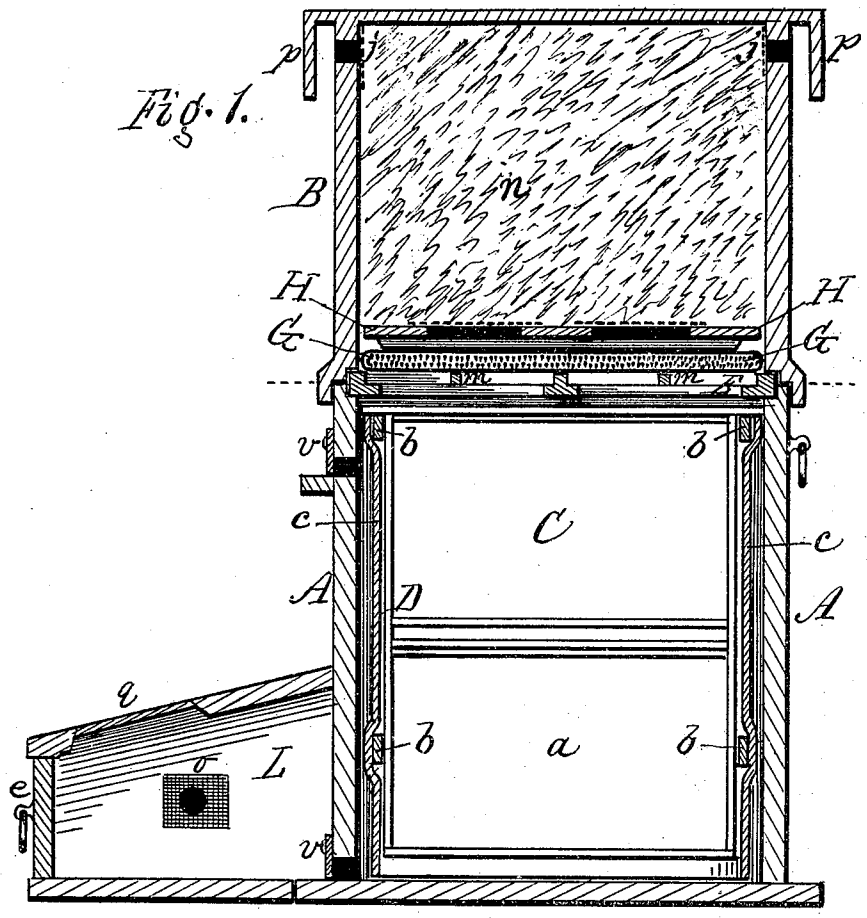
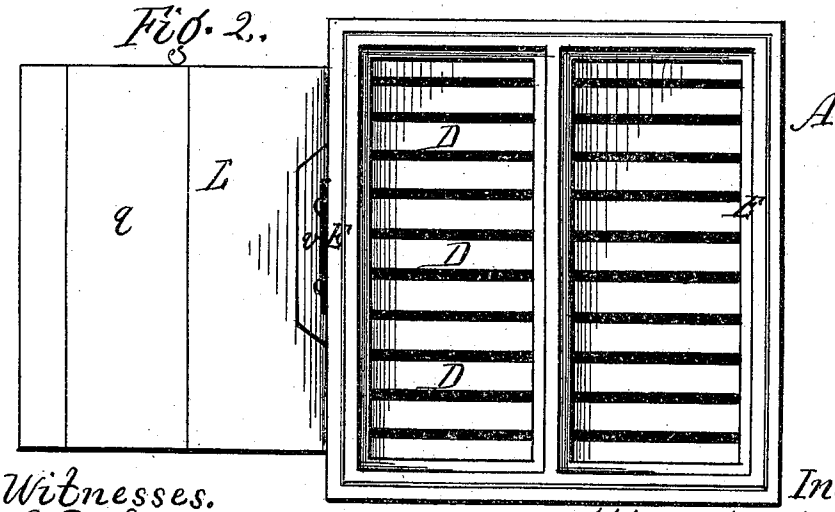


Fig. 2.



Witnesses.
E. B. Scott
Abner Benbank

Inventor.
Allen McQueen,
per R. F. Osgood,
Atty.

2 Sheets—Sheet 2.

A. McQUEEN.

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Fig. 3.

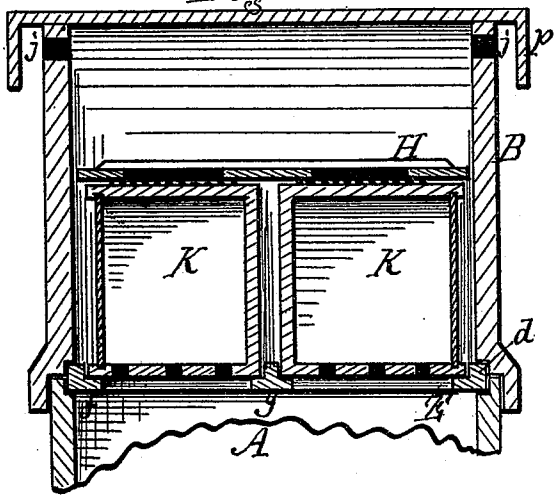


Fig. 4.

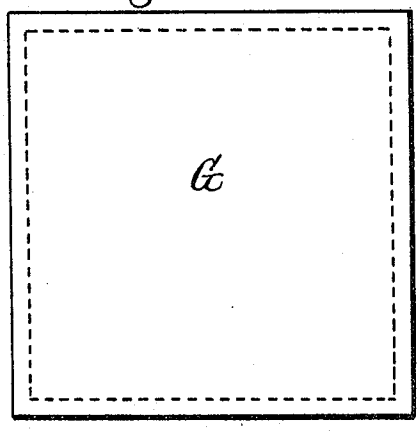


Fig. 5.

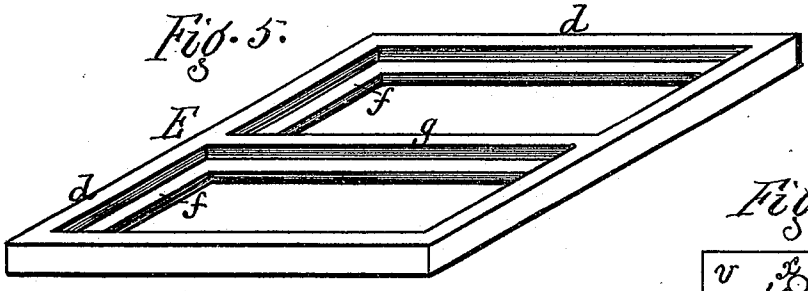


Fig. 7.

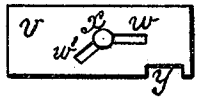
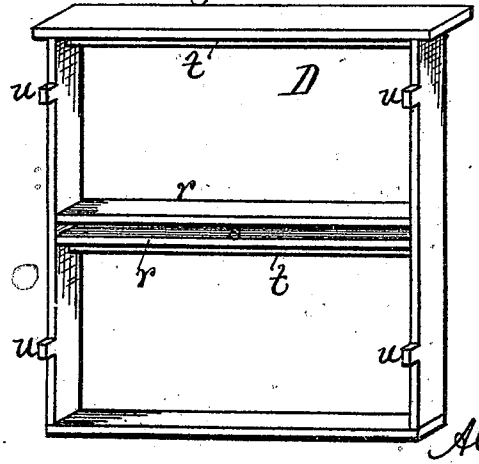


Fig. 6.



Witnesses.
E. B. Scott.
Abner Bumbank

Inventor:
Allen McQueen,
per R. F. Osgood,
Atty

UNITED STATES PATENT OFFICE.

ALLAN McQUEEN, OF NORTH BERGEN, NEW YORK.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **175,482**, dated March 28, 1876; application filed December 10, 1875.

To all whom it may concern:

Be it known that I, ALLAN McQUEEN, of North Bergen, in the county of Genesee and State of New York, have invented a certain new and useful Improvement in Bee-Hives; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical section. Fig. 2 is a plan, with the top of the hive removed. Fig. 3 is a view similar to Fig. 1, but showing the mat removed and the honey-boxes in place. Fig. 4 is a plan of the mat. Fig. 5 is a perspective view of the rack or seat. Fig. 6 is a perspective view of one of the comb-frames. Fig. 7 is an elevation of the lower slide.

My improvement relates to hives where a mat for absorbing the moisture is used, and where a packing is used around the brood-box to preserve warmth.

The invention consists in the construction and arrangement of parts hereinafter more fully described.

The body of the hive consists of a base, A, and top or cover B, which parts are separable, as usual. C is the brood-box, which rests independently in the base A, and contains the comb-frames D D. The brood-box, being independent, can be removed bodily with the comb-frames from the hive at any time for the purpose of cleaning the interior of the hive without disturbing the bees. The brood-box consists simply of two closed sides, *a a*, united by cross-pieces *b b*, and the comb-frames are simply hung upon the top cross-pieces, thereby leaving the front, rear, and top of the brood-box open or exposed. The open sides are covered by sheets *c c* of thick building-paper, and the top by a mat. These sheets *c c*, while preserving warmth in winter, can be easily removed from front or rear to examine the combs, which could not be the case if the four sides of the brood-box were solid. E is the removable rack or seat. It is a square frame which fits in the joint between the base A and top B, and by separating said parts it can be removed from place readily, thereby allowing the brood-box or its comb-frames to be lifted from the base when it is desired to do so. The rack is constructed with vertical flanges *d d* and horizontal ledges *f f*, and in the center is a dividing-rail, *g*, having corresponding ledges. It thus forms two open sockets for receiving the honey-boxes, as will presently be described. G is the mat. It is made of cotton inclosed between two layers of cloth and sewed together, as shown in Fig. 4. It is of a size to fill the whole, or nearly the whole, cross area of the hive. H is a screen, consisting of a square board provided with ports or openings *h h*, covered with wire-cloth *i i*, and having on one side cleats *k k*. In winter the rack E is fitted over the brood-box, as shown in Fig. 1, and the mat is laid on top the rack, the flanges *d d* supporting it some distance above the top of the comb-frames, so as to give proper ventilation. Intermediate cross-pieces *m m* may be used to keep the mat properly elevated and prevent it depressing through the rack. On top the mat is placed the screen H, and above this the top of the hive is filled with clean straw *n*. Ventilating-holes *j j* are made through the ends of the hive at the top covered by wire-cloth, and these are screened or covered by the pendants *p p*. In summer the mat and straw are removed, and the honey-boxes K K are fitted into the sockets of the rack, resting on the ledges *f f*, which form seats to the same, and the screen H is placed on top the honey-boxes, as shown in Fig. 3. The rack E, therefore, has the twofold function of holding the mat elevated above the comb-frames in winter, and of receiving and holding the honey-boxes in summer, and is, at the same time, removable, thereby leaving the whole area of the body of the hive open for the insertion or removal of the brood-box and comb-frames.

The mat is more particularly for absorbing the vapors and moisture in winter, though it also serves, in common with the paper sheets *c c*, to protect the brood-box from cold. In winter much moisture arises from the bees, and is liable to gather upon the surface of the combs and freeze, thereby preventing the bees from obtaining their supply of honey, and

causing them to starve. These vapors, rising, are absorbed by the mat. I have frequently removed a pint of water from the mat at once.

The comb-frames D are constructed with two central cross-pieces, *r r*, leaving a passage, *s*, in the center. This enables the bees to pass through from one frame to another, without going around. It also compels them to form two separate combs to each frame, by which means the combs are built straighter and more compact. On the under side of each upper cross piece is a V-shaped comb-guide, *t*, which gives direction to the comb and enables the bees to build straight. On the edge of each frame are projecting lugs *u u*. This is for the purpose of keeping the comb-frames at proper distance apart. The lugs of each frame rest against the smooth back of the next frame, thereby producing the proper separation, but preserving contact, and rendering the whole series of frames stiff and compact.

v v are the slides covering the entrance-passages to the hives. They have horizontal and inclined slots *w w'*, Fig. 7, through which pass studs *x x*. This enables the slide to be elevated by the sliding movement and retained. In the lower slide the horizontal slot is uppermost, so that the slide has a degree of horizontal movement before it is raised. In one end of the bottom of this slide is cut an offset, *y*, of sufficient size to allow the passage of several bees at once. The horizontal movement enables this offset to be moved more or less across the opening into the hive, so as to gage the size to the passage of one bee alone, or more than one, as may be desired. By this means the passage may be closed, so that the bees can defend themselves against robbers.

L is an apartment attached to the front of the hive, and covering the lower entrance-passage. In shape it is somewhat similar to the moth-traps and bee-feeders which are sometimes attached in front of hives, but is larger, being about nine by fourteen inches. It is constructed with a sliding door, *e*, in front, and with ventilating-holes *o o* at the ends, covered by wire-gauze. It also has a sloping roof, with a glass pane, *q*, set therein to admit light. Its object is to furnish the bees a circulating-apartment where they can obtain air, light, and exercise in winter. It is also sometimes of service in summer to confine weak colonies to protect them from robbers. It differs from ordinary moth and feeding boxes, in being of larger size, and also of different construction.

I claim, in a bee-hive—

1. The comb-frames D, constructed with the cross-slats *r r*, with passages *s* between, the lugs *u u* and comb-guides *t*, as and for the purpose specified.

2. The notched slide *v*, constructed with the combined horizontal and inclined slats *w w'*, whereby the slide is moved horizontally, and then raised vertically by a single action on the slide, as herein shown and described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ALLAN McQUEEN.

Witnesses:

ARDEN SANFORD,

JOHN D. GIFFORD.